

This listing of claims will replace the originally filed claims in the application.

Listing of Claims

Claims 1-5: Cancelled

Claim 6 (Amended): An antigen detection device for detecting the presence of an antigen in a fluid sample, the antigen detection device comprising:

a substrate micro-fabricated to define a mesoscale flow system that includes:

an input well;

an outlet well;

a plurality of antigen detection wells;

a plurality of input flow channels in fluid communication with the input well and each of the plurality of antigen detection wells; and

a plurality of outlet flow channels in fluid communication with outlet well and each of the plurality of antigen detection wells,

wherein the plurality of input flow channels are distinct from the plurality of outlet flow channels, and so that each of the plurality of input flow channels is in fluid communication with the outlet well only through one of the plurality of antigen detection wells;

at least one test reagent containing an antibody that is specific for the antigen being tested; and

a means for detecting whether the antibody is binding to an antigen in at least one of the plurality of antigen detection wells.

Claim 7 (Original): The antigen detection device of claim 6 wherein each of the at least one test reagents is disposed within one of the plurality of antigen detection wells.

Claim 8 (Original): The antigen detection device of claim 6 wherein the means for detecting is an electrode positioned adjacent the antigen detection well for detecting whether the antibody is binding to an antigen.

Claim 9 (Original): The antigen detection device of claim 6 wherein each of the plurality of antigen detection wells includes an antibody containment basin.

Claim 10 (Original): The antigen detection device of claim 6 further comprising an electronic reader apparatus adapted for making an electronic connection with the electrode, the electronic reader apparatus having a computer programmed to determine whether the antigen is binding with the antibody.

Claim 11: Cancelled